25 by spin-coating or other suitable means. The lens forming layer 80 may be an optical thermoplastic such as polymethylmethacrylate, polycarbonate, polyolefin, cellulose acetate butyrate, or polystyrene, a polyimide, a thermoset resin such as an epoxy resin, a photosensitive gelatin, or a radiation curable resin such as acrylate, methacrylate, urethane acrylate, epoxy acrylate, or polyester acrylate.

Next, as shown in Fig. 6, the lens forming layer 80 is patterned by conventional photolithography, or other suitable means, to form a plurality of lens forming regions 82. In the exemplary embodiment illustrated, each lens forming region 82 overlies a pixel cell 28, although alternative constructions in which a lens forming region 82 overlies multiple pixel cells 28 are foreseen. The shape of the lens forming regions 82 as seen from above may be circular, lenticular, ovoid, rectangular, hexagonal or any other suitable shape.

Please rewrite the paragraph bridging pages 9 and 10, starting at line 24, as follows:

Referring now to Fig. 7, the substrate 30 is then treated, by heat treatment or other suitable treatment, to form refractive lenses 70 from the lens forming regions 82. The treatment used to form the refractive lenses 70 depends on the material used to form the lens forming layer 80. If the material of the lens forming layer 80 may be heat treated, then heat treatment processes such as baking may be used. If the material is extremely photosensitive, then special light exposure techniques may be used, as further described below.

Please rewrite the paragraph bridging pages 10 and 11, starting at line 25, as follows:

Fig. 8 shows the next step of the process, in which a transparent insulation layer 72 is formed on the lenses 70 via a low temperature deposition process such as plasma enhanced chemical vapor deposition (CVD). The low temperatures are within the range of approximately 200 to 400 degrees Celsius. The transparent insulation layer 72 may be formed of a silicon insulator such as silicon oxide, silicon nitride, or silicon oxynitride that is

C3 amd

transparent to radiation. A CVD process is especially preferred if the transparent insulation layer 72 is formed from silicon oxide, because the CVD process permits the use of tetraethylorthosilicate (TEOS) as the silicon source, as opposed to silane, and therefore results in improved conformal deposition.

Please rewrite the paragraph on page 11, lines 9-23, as follows:

C4

The microlens array 22 is essentially complete at this stage, and conventional processing methods may now be performed to package the imager 20. Pixel arrays having the microlens arrays of the present invention, and described with reference to Figs. 1-8, may be further processed as known in the art to arrive at CMOS, CCD, or other imagers. If desired, the imager 20 may be combined with a processor, such as a CPU, digital signal processor or microprocessor, in a single integrated circuit, and may be used in a processor system such as the typical processor-based system illustrated generally at 400 in Fig. 9. A processor based system is exemplary of a system having digital circuits which could include CMOS or other imager devices. Without being limiting, such a system could include a computer system, camera system, scanner, machine vision system, vehicle navigation system, video telephone, surveillance system, auto focus system, star tracker system, motion detection system, image stabilization system and data compression system for high-definition television, all of which can utilize the present invention.

Please rewrite the paragraph bridging pages 11 and 12, starting at line 24, as follows:

C5

As shown in Fig. 9, a processor system such as a computer system, for example, generally comprises a central processing unit (CPU) 444, e.g., a microprocessor, that communicates with an input/output (I/O) device 446 over a bus 452. The imager 20 also communicates with the system over bus 452. The computer system 400 also includes random access memory (RAM) 448, and, in the case of a computer system may include peripheral devices such as a floppy disk drive 454 and a compact disk (CD) ROM drive 456 which also communicate with CPU 444 over the bus 452. The imager 20 is preferably constructed as an integrated circuit, with or without memory storage, which includes a